FIG. 1

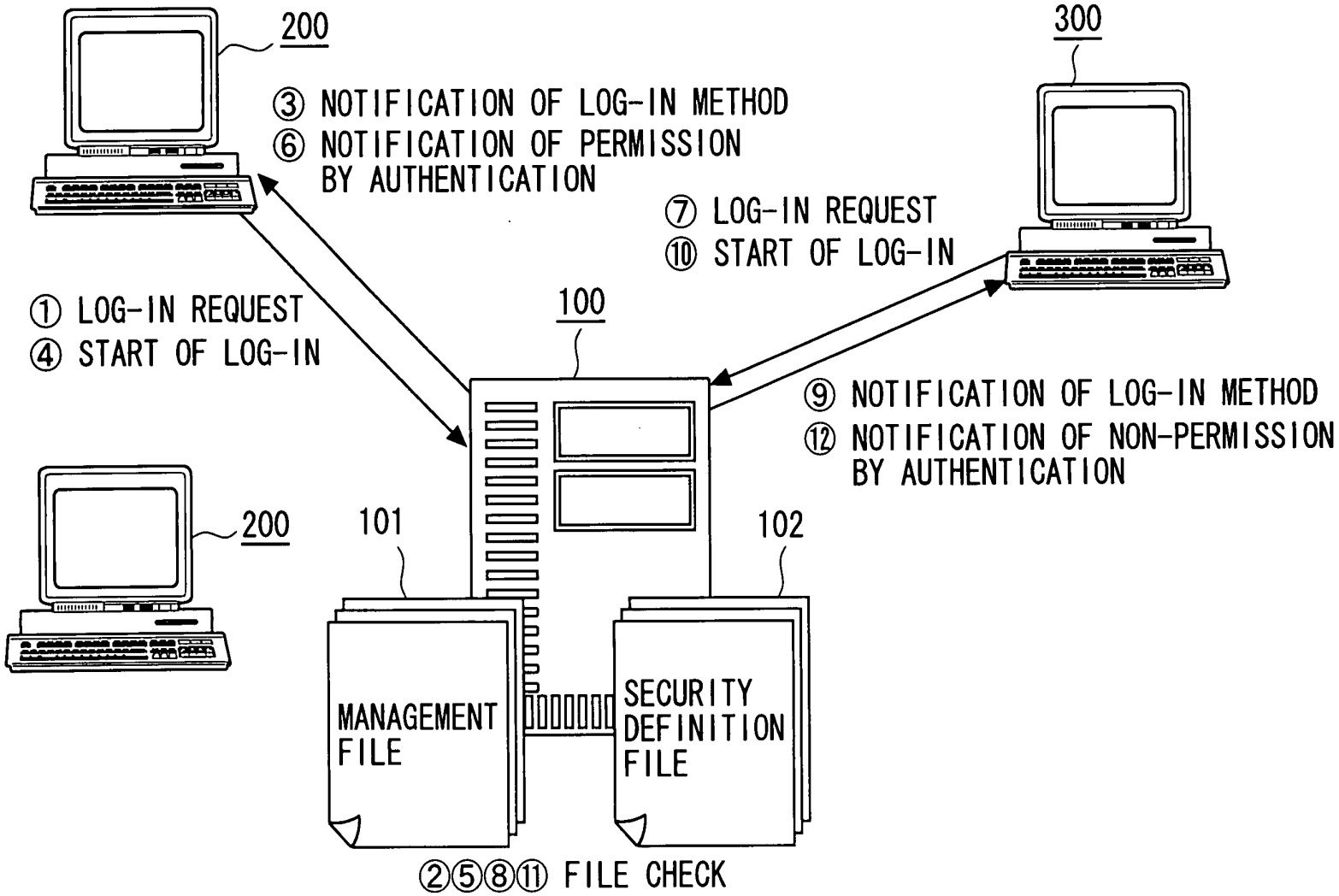
200
300
③ NOTIFICATION OF LOG-IN METHOD
⑥ NOTIFICATION OF PERMISSION BY AUTHENTICATION
⑦ LOG-IN REQUEST
⑩ START OF LOG-IN
① LOG-IN REQUEST
④ START OF LOG-IN
100
⑨ NOTIFICATION OF LOG-IN METHOD
⑫ NOTIFICATION OF NON-PERMISSION BY AUTHENTICATION
200
101
102
MANAGEMENT FILE
SECURITY DEFINITION FILE
②⑤⑧⑪ FILE CHECK

FIG. 2

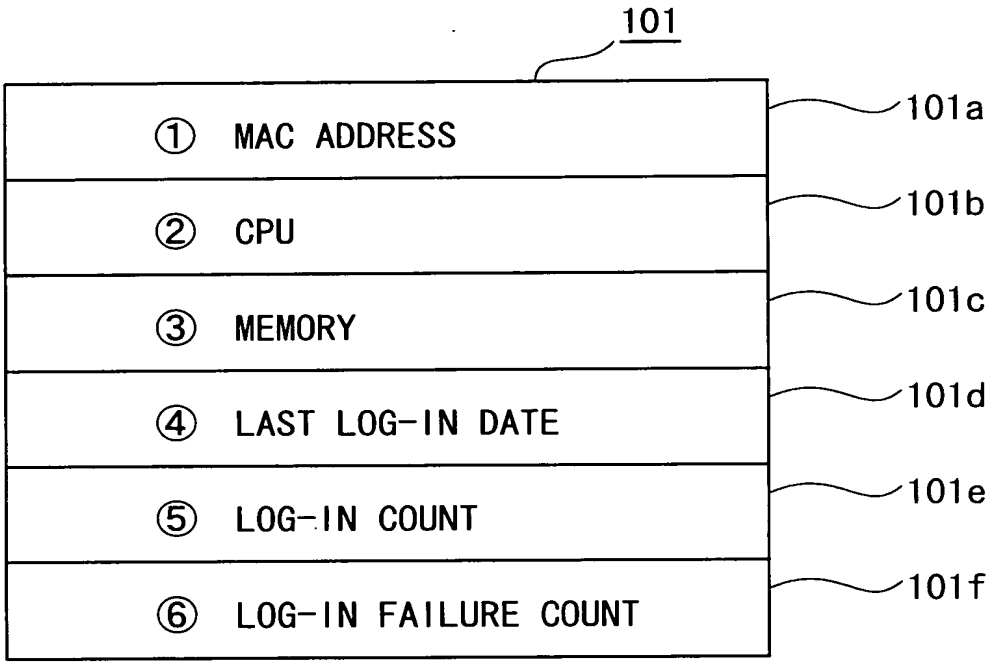
101
① MAC ADDRESS
② CPU
③ MEMORY
④ LAST LOG-IN DATE
⑤ LOG-IN COUNT
⑥ LOG-IN FAILURE COUNT
101a
101b
101c
101d
101e
101f

FIG. 3

ACCUMULATED LOG-IN COUNT	LEVEL	LOG-IN PROCEDURE
1-2	5	LOG-IN PROCEDURE OF LEVEL 5
3-5	4	LOG-IN PROCEDURE OF LEVEL 4
6-10	3	LOG-IN PROCEDURE OF LEVEL 3
11-20	2	LOG-IN PROCEDURE OF LEVEL 2
21	1	LOG-IN PROCEDURE OF LEVEL 1

FIG. 4

NUMBER OF ELAPSED DAYS	LEVEL	LOG-IN PROCEDURE
21-	5	LOG-IN METHOD OF LEVEL 5
11-20	4	LOG-IN METHOD OF LEVEL 4
6-10	3	LOG-IN METHOD OF LEVEL 3
3-5	2	LOG-IN METHOD OF LEVEL 2
1-2	1	LOG-IN METHOD OF LEVEL 1

FIG. 5

102c

FAILURE COUNT	SECURITY LEVEL
0-3	PRESENT LEVEL MAINTAINED
4	PRESENT LEVEL + 1
5	PRESENT LEVEL + 2
6	PRESENT LEVEL + 3
7-	PRESENT LEVEL + 4

FIG. 6

SECURITY	LOG-IN METHOD	LOG-IN COUNT
LEVEL 5	INPUTTING OF USER NAME AND PASSWORD, INPUTTING OF KEYWORD, FINGERPRINT AUTHENTICATION, SMART CARD, BUTTON PRESSING PERIOD	1~2
LEVEL 4	INPUTTING OF USER NAME AND PASSWORD, INPUTTING OF KEYWORD, FINGERPRINT AUTHENTICATION, SMART CARD	3~5
LEVEL 3	INPUTTING OF USER NAME AND PASSWORD, INPUTTING OF KEYWORD, FINGERPRINT AUTHENTICATION	6~10
LEVEL 2	INPUTTING OF USER NAME AND PASSWORD, INPUTTING OF KEYWORD	11~20
LEVEL 1	INPUTTING OF USER NAME AND PASSWORD	21 OR ABOVE

FIG. 7

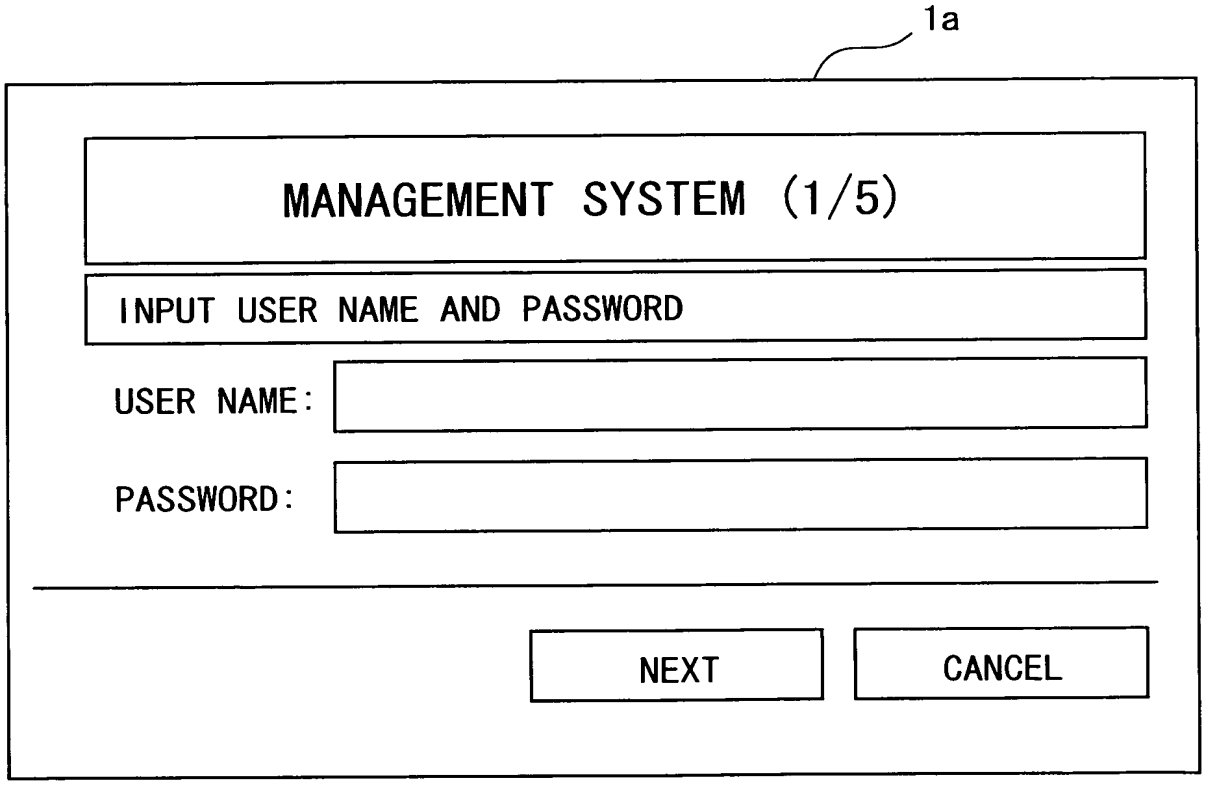
1a
MANAGEMENT SYSTEM (1/5)
INPUT USER NAME AND PASSWORD
USER NAME:
PASSWORD:
NEXT
CANCEL

FIG. 8

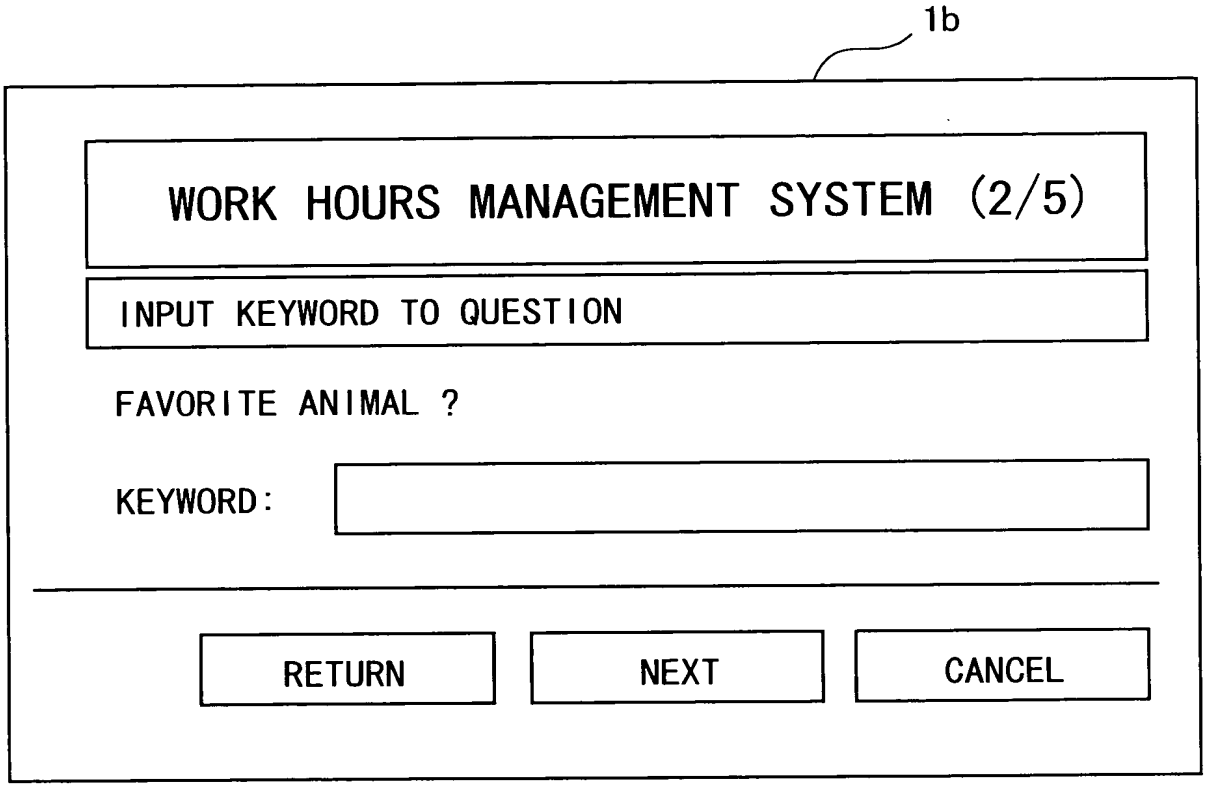
1b
WORK HOURS MANAGEMENT SYSTEM (2/5)
INPUT KEYWORD TO QUESTION
FAVORITE ANIMAL ?
KEYWORD:
RETURN
NEXT
CANCEL

FIG. 9

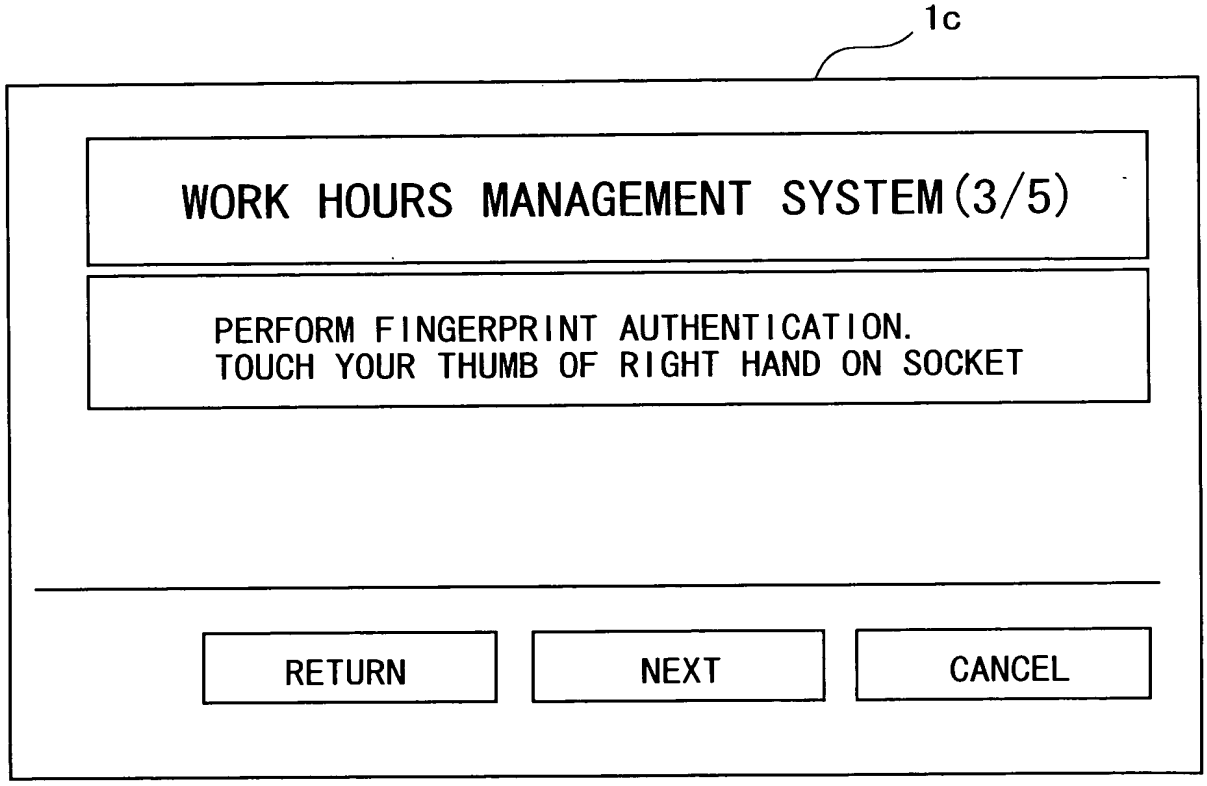
1c
WORK HOURS MANAGEMENT SYSTEM(3/5)
PERFORM FINGERPRINT AUTHENTICATION.
TOUCH YOUR THUMB OF RIGHT HAND ON SOCKET
RETURN
NEXT
CANCEL

FIG. 10

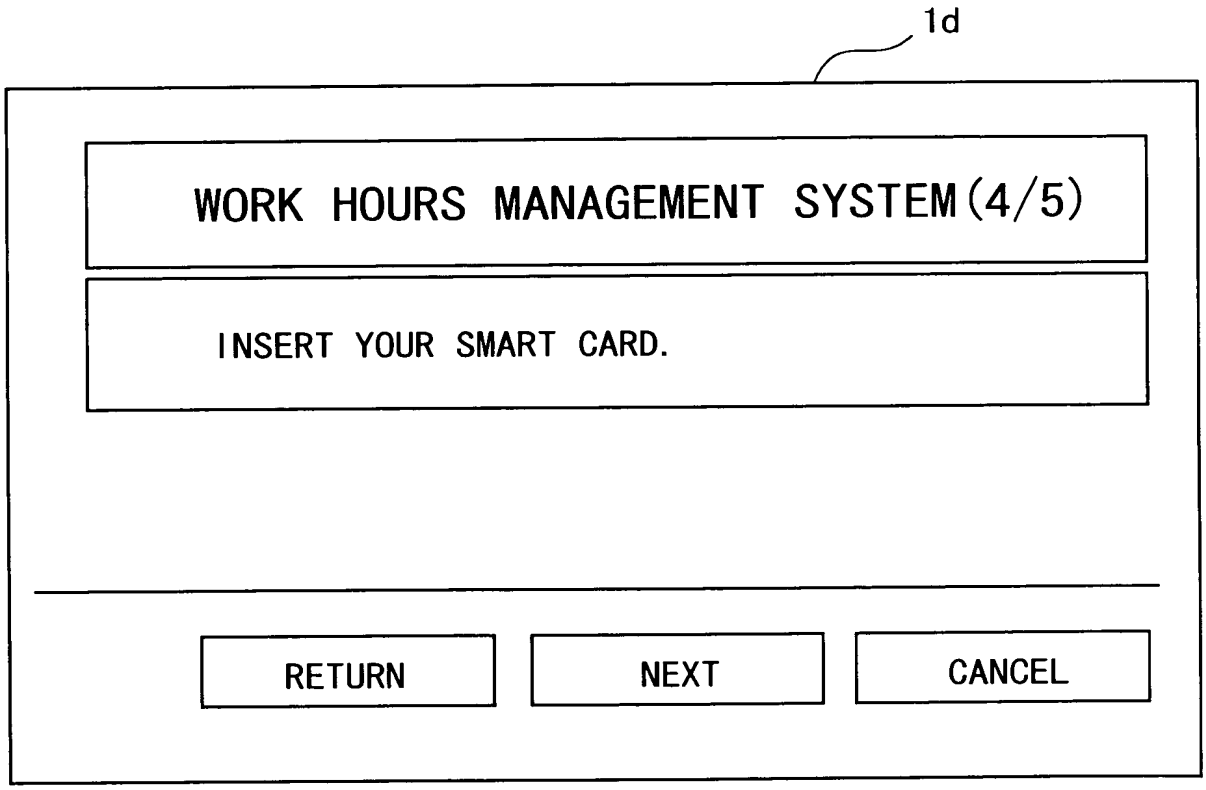
1d
WORK HOURS MANAGEMENT SYSTEM (4/5)
INSERT YOUR SMART CARD.
RETURN
NEXT
CANCEL

FIG. 11

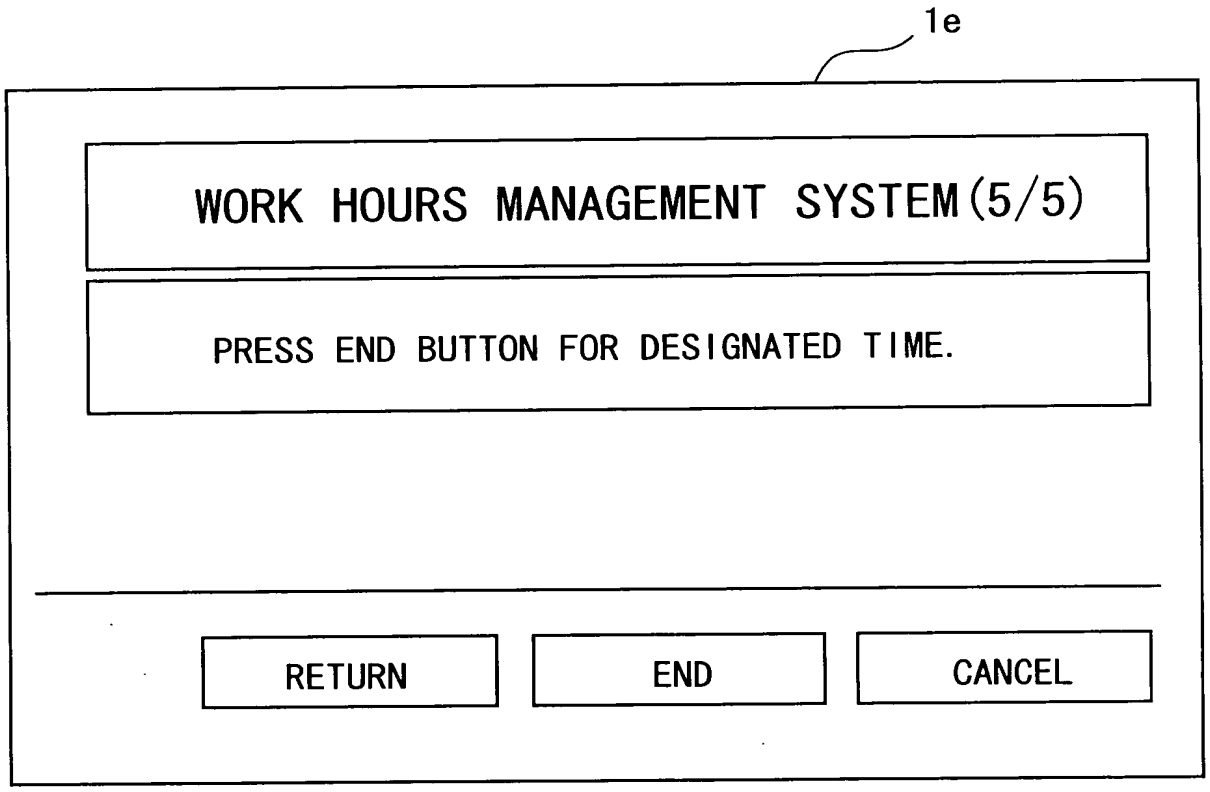
1e
WORK HOURS MANAGEMENT SYSTEM(5/5)
PRESS END BUTTON FOR DESIGNATED TIME.
RETURN
END
CANCEL

FIG. 12

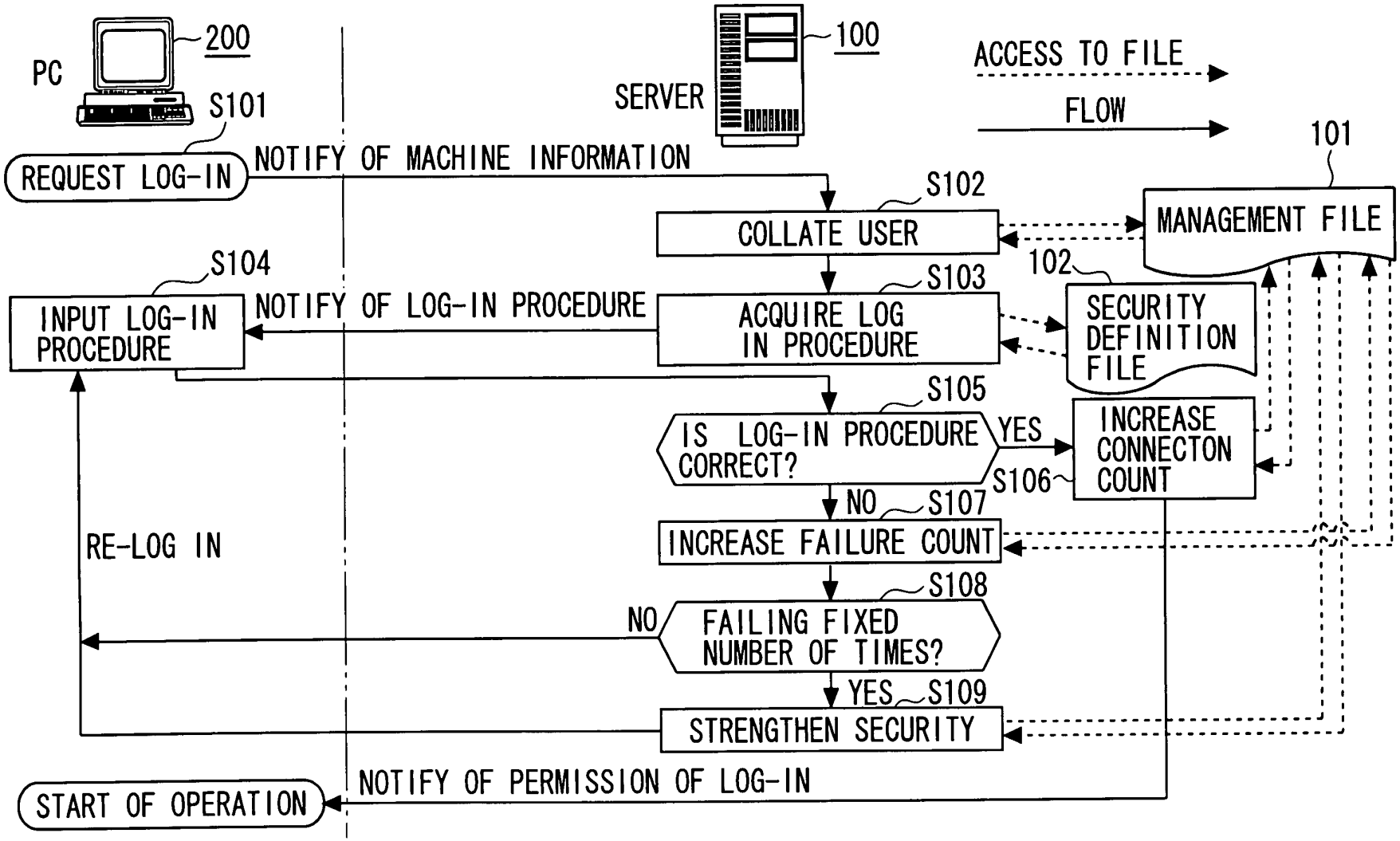
PC
200
S101
REQUEST LOG-IN
NOTIFY OF MACHINE INFORMATION
SERVER
100
ACCESS TO FILE
FLOW
101
MANAGEMENT FILE
S102
COLLATE USER
S104
INPUT LOG-IN PROCEDURE
NOTIFY OF LOG-IN PROCEDURE
S103
ACQUIRE LOG IN PROCEDURE
102
SECURITY DEFINITION FILE
S105
IS LOG-IN PROCEDURE CORRECT?
YES
S106
INCREASE CONNECTON COUNT
NO
S107
INCREASE FAILURE COUNT
RE-LOG IN
S108
NO
FAILING FIXED NUMBER OF TIMES?
YES
S109
STRENGTHEN SECURITY
START OF OPERATION
NOTIFY OF PERMISSION OF LOG-IN

FIG. 13

SECURITY	LOG-IN METHOD	LOG-IN COUNT
LEVEL 5	INPUTTING OF USER NAME AND PASSWORD, INPUTTING OF KEYWORD, FINGERPRINT AUTHENTICATION, SMART CARD, BUTTON PRESSING PERIOD	21 OR ABOVE
LEVEL 4	INPUTTING OF USER NAME AND PASSWORD, INPUTTING OF KEYWORD, FINGERPRINT AUTHENTICATION, SMART CARD	11~20
LEVEL 3	INPUTTING OF USER NAME AND PASSWORD, INPUTTING OF KEYWORD, FINGERPRINT AUTHENTICATION	6~10
LEVEL 2	INPUTTING OF USER NAME AND PASSWORD, INPUTTING OF KEYWORD	3~5
LEVEL 1	INPUTTING OF USER NAME AND PASSWORD	1~2